

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A data processing system for use with a process control system, the data processing system comprising:

a first processing plant communicatively coupled to an open network;

a second processing plant communicatively coupled to the open network;

a primary server communicatively coupled to the open network, wherein the primary server is adapted to execute a ~~plurality of~~ data processing application[[s]]; and

a primary data historian communicatively coupled to the primary server, wherein the primary server is adapted to receive process control information automatically generated by a device of ~~from~~ the first and second processing plant[[s]] via the open network and to store a portion of the received process control information in the primary data historian and wherein the primary server is further adapted to use ~~one or more of the plurality of~~ data processing application[[s]] to ~~each~~ generate analysis results from the process control information and send the analysis results to the first and second plants via the open network.

Claim 2 (Original): The system of claim 1, further comprising a redundant server that is communicatively coupled to the primary server and the primary data historian, wherein the redundant server is adapted to maintain synchronization with the primary server and to supersede the primary server in response to one of a failure indication and degradation indication associated with the primary server.

Claim 3 (Original): The system of claim 2, further comprising a redundant data historian that is communicatively coupled to the primary server, the redundant server and the primary data historian, wherein the redundant data historian is adapted to maintain data synchronization with the primary data historian and to supersede the primary data historian in response to one of a failure indication and degradation indication of the primary data historian.

Claim 4 (Original): The system of claim 1, wherein the open network is the Internet.

Claim 5 (Original): The system of claim 1, wherein the first process plant is in a first geographic location and the second process plant is in a second geographic location different from the first geographic location.

Claim 6 (Original): The system of claim 1, wherein the first process plant is associated with a first business entity and the second process plant is associated with a second business entity.

Claim 7 (Currently Amended): The system of claim 1, wherein ~~at least one of the plurality of~~ the data processing application[[s]] is adapted to perform one of a plant optimization function, a real-time process monitoring function, a data reconciliation function, a plant emissions analysis function, a plant emissions control function, a dispatch function, a plant control function and an alarming function.

Claim 8 (Currently Amended): The system of claim 1, wherein ~~at least one of the plurality of~~ the data processing application[[s]] is adapted to perform a data correction function.

Claim 9 (Original): The system of claim 8, wherein the data correction function is one of a digital verification function, a data validation function, a data reconciliation function and a data source re-calibration function.

Claim 10 (Currently Amended): The system of claim 1, wherein ~~at least one of the plurality of~~ the data processing application[[s]] uses continuous emissions monitoring data to generate a plant emissions report.

Claim 11 (Currently Amended) The system of claim 10, wherein ~~the at least one of the plurality of~~ the data processing application[[s]] generates the plant emissions report using a format defined by a governmental authority and communicates the plant emissions report to the governmental authority.

Claim 12 (Currently Amended): The system of claim 1, wherein ~~at least one of the plurality of~~ the data processing application[[s]] performs one of a plant emissions

minimization and a plant emissions optimization using one of a shared vector gradient technique, a neural net technique and a Fibonacci search technique.

Claim 13 (Currently Amended): The system of claim 1, wherein ~~at least one of the plurality of the~~ data processing application[[s]] performs a compensatory control function in response to emissions data received from one of the first and second process plants.

Claim 14 (Currently Amended): The system of claim 1, wherein ~~at least one of the plurality of the~~ data processing application[[s]] uses an internet browser application as a visualization layer.

Claim 15 (Original): The system of claim 14, wherein the internet browser application is executed within a user interface that is physically remote from the first and second process plants.

Claim 16 (Original) The system of claim 1, wherein one of the first and second process plants further comprises one of an internet-enabled field device, an internet-enabled field device interface and a data concentration node.

Claim 17 (Original) The system of claim 16, wherein the one of the internet-enabled field device, an internet-enabled field device interface and a data concentration node includes an embedded data server and an embedded data historian communicatively coupled to the embedded data server.

Claim 18 (Original): The system of claim 1, wherein one of the first and second plants includes a digital communication network based on one of an RS485, Foundation Fieldbus, Ethernet TCP/IP and a wireless blue tooth protocol.

Claim 19 (Original): The system of claim 1, wherein one of the first and second plants and the primary server uses a data compression technique to transmit information via the open network.

Claim 20 (Currently Amended): A data processing system for use with a process control system, the data processing system comprising:

a cluster of redundant servers that are communicatively coupled via a local network, wherein each of the redundant servers is adapted to acquire and process data;

a plurality of redundant data historians that are communicatively coupled to each other and to the cluster of redundant servers; and

a plurality of process plants that are communicatively coupled to the cluster of redundant servers via an internet, wherein the plurality of process plants is associated with a plurality of business entities, and wherein the cluster of redundant servers is adapted to execute a data processing application that processes information automatically generated by devices of ~~received from~~ the plurality of process plants and generates from the information analysis results that are accessible by a user via the internet.

Claim 21 (Original): The system of claim 20, wherein the data processing application includes one of a data analysis tool, a remote process management tool, a process optimization tool, a continuous emissions monitoring and minimization tool, a distributed power management tool, a dispatch and optimization tool, a centralized multi-client HVAC system monitoring and maintenance management tool, a remote water and waste processing facility monitoring and control tool, a pharmaceutical process tool, a biotechnology process tool and a semiconductor process tool.

Claim 22 (Original): The system of claim 20, wherein each of the plurality of process plants includes one of an internet-enabled field device, an internet-enabled field device interface and a data concentration node.

Claim 23 (Original): The system of claim 22, wherein the one of the internet-enabled field device, an internet-enabled field device interface and a data concentration node includes an embedded data server and an embedded data historian.

Claim 24 (Currently Amended): A method of acquiring, analyzing and reporting process plant data, comprising the steps of:

receiving information automatically generated by devices of ~~from~~ a plurality of process plants associated with a plurality of business entities via an internet;

processing the received information using a cluster of redundant servers associated with a vendor business entity that is different from the plurality of business entities to generate analysis results;

storing the analysis results in a plurality of redundant data historians that are communicatively coupled to the cluster of redundant servers;

providing access to the analysis via the internet; and

billing each of the plurality of business entities based on one of respective data usage and type and processing time.

Claim 25 (Original): The method of claim 24, wherein the step of receiving the information from the plurality of process plants includes the step of receiving a first part of the information from a first process plant in a first geographic location and a second part of the information from a second process plant is in a second geographic location that is physically remote from the first geographic location, wherein the first process plant is associated with a first one of the plurality of business entities and the second process plant is associated with a second one of the plurality of business entities.

Claim 26 (Original): The method of claim 24, wherein the step of processing the received information includes the step of performing one of a plant optimization function, a real-time process monitoring function, a data reconciliation function, a plant emissions analysis function, a plant emissions control function, a dispatch function, a plant control function and an alarming function.

Claim 27 (Original): The method of claim 24, wherein the step of processing the received information using the cluster of redundant servers associated with the vendor business entity that is different from the plurality of business entities to generate the analysis results includes the step of performing a data correction function.

Claim 28 (Original): The method of claim 24, wherein the step of processing the received information using the cluster of redundant servers associated with the vendor business entity that is different from the plurality of business entities to generate the analysis results includes the step of using continuous emissions monitoring data to generate a plant emissions report.

Claim 29 (Previously Presented): The method of claim 28, wherein the step of using continuous emissions monitoring to generate the plant emissions report includes the step of using a format defined by a governmental authority.

Claim 30 (Original): The method of claim 24, wherein the step of processing the received information using the cluster of redundant servers associated with the vendor business entity that is different from the plurality of business entities to generate the analysis results includes the step of performing one of a plant emissions minimization and optimization using one of a shared vector gradient technique, a neural net technique and a Fibonacci search technique.

Claim 31 (Original): The method of claim 24, further comprising the step of sending a first part of the received information from one of the plurality of process plants to the cluster of redundant servers using one of an internet-enabled field device, an internet-enabled field device interface and a data concentration node.

Claim 32 (Original): The method of claim 31, wherein the step of sending the first part of the information from the one of the plurality of process plants to the cluster of redundant servers using the one of an internet-enabled field device, an internet-enabled field device interface and a data concentration node includes the step of using an embedded data server to send the first part of the information.

Claim 33 (Original): The method of claim 24, wherein the step of billing each of the plurality of business entities includes the step of billing each of the plurality of business entities in accordance with one of a rental agreement, an off-book operating lease agreement and a financial lease agreement for respective costs that are less than the costs associated with

the costs that would otherwise be incurred by each of the plurality of processing plants to generate the analysis results.

Claim 34 (Original): The method of claim 24, wherein the analysis results include cost accounting information for each of the plurality of processing plants.

Claim 35 (Currently Amended): A data processing system for use with a process control system, the data processing system comprising:

a processing plant communicatively coupled to an open network;

a remote user interface communicatively coupled to the open network;

a server communicatively coupled to the open network, wherein the server is adapted to execute a ~~plurality of~~ data processing application[[s]]; and

a data historian communicatively coupled to the server, wherein the server is adapted to receive process control information automatically generated by a device of ~~from~~ the processing plant via the open network and to store a portion of the received process control information in the data historian and wherein the server is further adapted to use ~~one or more of the plurality of~~ data processing application[[s]] to ~~each~~ generate analysis results from the process control information and send the analysis results to the remote user interface via the open network.

Claim 36 (Original): The system of claim 35, wherein the remote user interface is associated with a regulatory authority.

Claim 37 (Original): The system of claim 36, wherein the regulatory authority is the Environmental Protection Agency.

Claim 38 (Original): The system of claim 35, further comprising a second processing plant communicatively coupled to the open network that sends process control information associated with the second processing plant to the server via the open network.

Claim 39 (Original): The system of claim 35, further comprising a redundant server communicatively coupled to the server, wherein the redundant server is adapted to maintain

synchronization with the server and to supersede the server in response to one of a failure indication and degradation indication associated with the server.